

What is claimed is:

1. A liquid crystal display comprising:

a data driver for supplying video signals to data lines;

a gate driver for supplying a gate signals to each gate line;

a plurality of first switching parts and a plurality of second switching parts located in an i^{th} horizontal line for supplying video signals to associated liquid crystal cells by the control of an $i-1^{\text{th}}$ gate line;

a plurality of third switching parts located in the i^{th} horizontal line for applying video signals to associated liquid crystal cells by the control of the i^{th} gate line and an $i-1^{\text{th}}$ gate line; and

a plurality of fourth switching parts located in the i^{th} horizontal line for applying video signals to associated liquid crystal cells by the control of the i^{th} gate line and the $i-1^{\text{th}}$ gate line.

2. The liquid crystal display of claim 1, wherein the data driver supplies video signals to the data lines using a column inversion method.

3. The liquid crystal display of claim 1, wherein the plurality of third switching parts, located in the i^{th} horizontal line, are connected to the same data line as the second switching part adjacent thereto.

4. The liquid crystal display of claim 1, wherein the plurality of fourth switching parts, located in the i^{th} horizontal line, are connected to the same data line as the first switching part adjacent thereto.

5. The liquid crystal display of claim 1, wherein each of the first, second, third and fourth switching parts includes two thin film transistors, respectively.

6. The liquid crystal display of claim 1, wherein the gate driver supplies a first gate signal and a second gate signal to each gate line.

7. The liquid crystal display of claim 6, wherein the gate driver sequentially supplies a first gate signal and a second gate signal to each gate line.

8. The liquid crystal display of claim 6, wherein the first gate signal supplied to the i^{th} gate line is supplied

overlapping with the second gate signal supplied to the $i-1^{\text{th}}$ gate line.

9. The liquid crystal display of claim 8, wherein the first gate signal supplied to the i^{th} gate line starts at substantially the same time as the second gate signal supplied to the $i-1^{\text{th}}$ gate line.

10. The liquid crystal display of claim 6, wherein a duration of the first gate signal is approximately half of a duration of the second gate signal.

11. The liquid crystal display of claim 1, wherein the first to the fourth switching parts are arranged in a zigzag pattern.

12. The liquid crystal display of claim 1, wherein each of the first switching parts located in the i^{th} horizontal line includes:

a first thin film transistor connected to an odd-numbered data line and the $i-1^{\text{th}}$ gate line; and

a second thin film transistor connected to the first thin film transistor and the $i-1^{\text{th}}$ gate line and connected to

a liquid crystal cell located at a j^{th} (where j is 2, 6, 10, ...) vertical line.

13. The liquid crystal display of claim 12, wherein each of the second switching parts located in the i^{th} horizontal line includes:

a first thin film transistor connected to an even-numbered data line and the $i-1^{\text{th}}$ gate line; and

a second thin film transistor connected to the first thin film transistor and the $i-1^{\text{th}}$ gate line and connected to a liquid crystal cell located at a $j+1^{\text{th}}$ (where j is 2, 6, 10, ...) vertical line.

14. The liquid crystal display of claim 13, wherein each of the third switching parts located at the i^{th} horizontal line includes:

a first thin film transistor connected to an even-numbered data line and the $i-1^{\text{th}}$ gate line; and

a second thin film transistor connected to the first thin film transistor and the i^{th} gate line and connected to a liquid crystal cell located at a $j-1^{\text{th}}$ (where j is 2, 6, 10, ...) vertical line.

15. The liquid crystal display of claim 14, wherein each of

the fourth switching parts located in the i^{th} horizontal line includes:

- a first thin film transistor connected to an odd-numbered data line and the $i-1^{\text{th}}$ gate line; and

- a second thin film transistor connected to the first thin film transistor and the i^{th} gate line and connected to a liquid crystal cell located at a $j+2^{\text{th}}$ (where j is 2, 6, 10, ...) vertical line.

16. The liquid crystal display of claim 15, wherein each of the first switching parts located in the $i+1^{\text{th}}$ horizontal line includes:

- a first thin film transistor connected to an even-numbered data line and the i^{th} gate line; and

- a second thin film transistor connected to the first thin film transistor and the i^{th} gate line and connected to a liquid crystal cell located at a $j+2^{\text{th}}$ (where j is 2, 6, 10, ...) vertical line.

17. The liquid crystal display of claim 16, wherein each of the second switching parts located in the $i+1^{\text{th}}$ horizontal line includes:

- a first thin film transistor connected to an odd-

numbered data line and the i^{th} gate line; and

a second thin film transistor connected to the first thin film transistor and the i^{th} gate line and connected to a liquid crystal cell located at a $j-1^{\text{th}}$ (where j is 2, 6, 10, ...) vertical line.

18. The liquid crystal display of claim 17, wherein each of the third switching parts located in the $i+1^{\text{th}}$ horizontal line includes:

a first thin film transistor connected to an odd-numbered data line and the i^{th} gate line; and

a second thin film transistor connected to the first thin film transistor and the $i+1^{\text{th}}$ gate line and connected to a liquid crystal cell located at a $j+1^{\text{th}}$ (where j is 2, 6, 10, ...) vertical line.

19. The liquid crystal display of claim 18, wherein each of the fourth switching parts located in the $i+1^{\text{th}}$ horizontal line includes:

a first thin film transistor connected to an odd-numbered data line and the i^{th} gate line; and

a second thin film transistor connected to the first thin film transistor and the $i+1^{\text{th}}$ gate line and connected to a liquid crystal cell located at a j^{th} (where j is 2, 6, 10,

...) vertical line.

20. The liquid crystal display of claim 1, wherein the data driver supplies video signals to the third and the fourth switching parts located in the i^{th} horizontal line when the second gate signal is applied to the $i-1^{\text{th}}$ gate line and the first gate signal is applied to the i^{th} gate line.

21. The liquid crystal display of claim 20, wherein the data driver supplies video signals to the first and the second switching parts located in the i^{th} horizontal line when the first gate signal has stopped, so that only the second gate signal is applied to the $i-1^{\text{th}}$ gate line.

22. A method of operating a liquid crystal display comprising:

supplying video signals to data lines of the liquid crystal display;

supplying gate signals to each gate line of the liquid crystal display;

controlling a plurality of first switching parts and a plurality of second switching parts located in an i^{th} horizontal line using an $i-1^{\text{th}}$ gate line, so that the plurality of first switching parts and the plurality of

second switching parts supply video signals from data lines to associated liquid crystal cells;

controlling a plurality of third switching parts located in the i^{th} horizontal line using the i^{th} gate line and an $i-1^{\text{th}}$ gate line, so that the plurality of third switching parts supply video signals from data lines to associated liquid crystal cells; and

controlling a plurality of fourth switching parts located in the i^{th} horizontal line using the i^{th} gate line and the $i-1^{\text{th}}$ gate line, so that the plurality of fourth switching parts supply video signals from data lines to associated liquid crystal cells.

23. The method of claim 22, wherein said step of supplying video signals to data lines uses a column inversion method.

24. The method of claim 22, wherein the plurality of third switching parts, located in the i^{th} horizontal line, are connected to the same data line as the second switching part adjacent thereto.

25. The method of claim 22, wherein the plurality of fourth switching parts, located in the i^{th} horizontal line, are connected to the same data line as the first switching part

adjacent thereto.

26. The method of claim 22, wherein each of the first, second, third and fourth switching parts includes two thin film transistors, respectively.

27. The method of claim 22, wherein said step of supplying gate signals includes supplying a first gate signal and a second gate signal to each gate line of the liquid crystal display.

28. The method of claim 27, wherein the first gate signal and the second gate signal are sequentially supplied to each gate line of the liquid crystal display.

29. The method of claim 27, wherein the first gate signal supplied to the i^{th} gate line is supplied overlapping with the second gate signal supplied to the $i-1^{\text{th}}$ gate line.

30. The method of claim 29, wherein the first gate signal supplied to the i^{th} gate line starts at substantially the same time as the second gate signal supplied to the $i-1^{\text{th}}$ gate line.

31. The method of claim 27, wherein a duration of the first gate signal is approximately half of a duration of the second gate signal.

32. The method of claim 31, wherein the first gate signal supplied to the i^{th} gate line starts at substantially the same time as the second gate signal supplied to the $i-1^{\text{th}}$ gate line.